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History of a Case of Ranula. By ..... Communicated for the Museum.

SIR,

As great difficulty attends the removal of the disease which is the subject of the ensuing pages, although the most powerful means were employed, and as by the accounts in books, we are led to suppose it very readily cured by trifling applications, I hope the history of this case may be deemed of sufficient importance to afford it a place in the Medical Museum.

I am, Sir,

DR. COXE. Yours, &c.

August, 1810.

H—— B——, Esq. applied to me on the 9th August, 1802, for assistance for a Ranula, under the tongue, which had existed within his recollection upwards of five years; how long preceding that period, he does not remember. The tumour yielded to pressure, and could be made to disappear for a short time. It never

gave him any pain, but he thought it excited him to gape, and it appeared to enlarge in damp weather. He had supposed it originated from playing on the flute.

I proposed, to him to open the cyst, and destroy it with caustic, after discharging the contents. To this he submitted; I made a transverse incision through the loose skin, and tumour above its centre, with a lancet, and then enlarged the opening from one side to the other. A caseous or suetty substance in appearance and consistence, and very adhesive to the instruments, began to discharge, and with the aid of the handle of a teaspoon, and occasional dilution, or rather deterging, with water, for it did not appear to unite, I procured the discharge of between two and three ounces of this substance. I then could distinctly perceive the firm and callous sides of the cyst, to which I applied a weak solution of lunar caustic, and placed a dosil of lint in the orifice. The muscles of the jaws were much fatigued by their long contraction, and considerable stiffness and pain ensued from riding out of town the same evening, which continued for a few days.

The lint remained in but a short time, and on the tenth, I found the orifice nearly closed. I destroyed the adhesion with my probe, and again touched the inside of the cyst with caustic, introducing a portion of lint to keep the orifice open, and ordered it to be syringed with a strong solution of soap, two or three times daily.

Eleventh. Much saliva is discharged of a thick consistence: I now used a nearly saturated solution of alum two or three times daily, in hopes of destroying the cyst, or of pro-

ducing a coalescence of the sides by adhesive inflammation. It appeared to be serviceable slightly, at least I flattered myself so, and Mr. B. soon after left town, with injunctions to pursue the use of the alum steadily. It produced no pain in the cyst, and by inattention in applying the lint, the orifice was allowed to close, by which means a collection of fluid formed in the cyst, and as it was only capable of oozing from an orifice scarcely able to allow the introduction of the point of a small probe, it soon became offensive, and the discharge was of an acid taste. I did not see him till the 4th of September, when I again enlarged the orifice and deterged it with tincture of myrrh, introducing a tent of lint to the bottom. The cyst was altogether insensible. I therefore dipt the lint into a solution of corrosive sublimate two grains to the ounce, and gradually increased it without effect or any sensation, till I had augmented it to ten grains to the ounce of water; in two or three days, at this strength it began to give considerable pain, and suppuration commenced. On the 14th I therefore began to diminish the size of the tent and used the solution but once a day. These pleasing appearances soon subsided, and things continued nearly stationary although the strength of the solution was increased to sixteen grains to the ounce. Mr. B. during this state went to the country, and by some means the tent of lint (which he had learnt to introduce himself) slipped during sleep into the cyst. He endeavoured in vain to extract it with a bent needle, which considerably irritated the orifice. A surgeon in the neighbourhood ineffectually attempted its removal with his forceps; and I began to feel persuaded it had been swallowed during sleep; I found things in this state on his return to town soon after. I now determined to pursue more active measures, and accordingly introduced equal parts of strong sulphuric acid and honey. It

gave great pain, though it appeared to be confined to the orifice alone, as no sensation within the cyst was evident after several days continuance in this plan. Little apparent benefit was perceived—the cyst continuing as firm as ever. I therefore enlarged the orifice with spongé tent, and began the use of a saturated solution of nitrat of silver (lunar caustic) and after a fair trial of more than a week without any effect, I began with undiluted sulphuric acid. These, I at first passed down a piece of flexible catheter, but soon found it expedient to change it for a canula of sheet lead in form of a cone, which I could pass to the bottom, and which only shewed in a clear light, the firm consistence of the cyst. The acid produced no action on the cyst, but gave exquisite pain to the tender edges, the vessels from which appeared daily to shoot into the sponge so as to require a considerable twist of the forceps to remove it, and it was always accompanied with a copious discharge of blood from the lacerated extremities. I pursued this plan also ineffectually for more than a week and then had recourse to a saturated solution of caustic potash. Very little effect was produced—some small filaments however coming away encouraged me to proceed, in hopes the application was now destroying the cyst. The pain was exquisite to the external orifice, continuing occasionally some hours. I pursued this plan for some days, expecting, though erroneously, to excite adhesive inflammation at least. I therefore discontinued both it and the tents. A few days contracted the orifice to a fistulous opening, through which a fluid gently oozed. This by degrees becoming from confinement offensive, I once more dilated it with sponge, so as in three or four days to be able to admit the tip of my little finger. I again applied the undiluted sulphuric acid, (now about the beginning of December) and a slight suppuration soon ensued. In a few days a

small piece of cyst came away which induced me daily to introduce my forceps in hopes of detaching any loose portions from their situations, and succeeded in small quantities which kept up my hopes, that were nearly expended in pursuing so apparently an useless plan. On the 7th of December I was highly gratified in drawing out what I considered as the inferior portion of the cyst—but which appeared on examination clearly to be a piece of lint, the individual tent, which had been lost two months before, and which must have been firmly jammed at the bottom by the efforts to remove it, and now was loosened from its confinement by the suppuration which had commenced. It was rather diminished in size. During all this time the pain was very great from the application of the caustic, though still it seemed to be at the orifice alone. As the cyst still appeared but slightly affected, I had some intention of using the butter of antimony—but determined previously to employ a *less diffusible* caustic: With this view I fixed on the *red precipitate*, which I passed down the same leaden tube by means of a quill—and after withdrawing the tube, I introduced the sponge tent, which retained the precipitate at the bottom of the cyst. This was on the 9th of December, and on dressing it on the 10th, I was astonished and delighted at the copious suppuration which had been so speedily induced. A large portion of highly tenaceous matter adhering besides, like a firm jelly to the end of the sponge, to which the precipitate also appeared connected, with an apparent disposition to de-oxydation as I judged from its change from a brilliant red to a dingy hue. After clearing out the cyst I introduced the forceps and was agreeably surprised by withdrawing one or two larger portions of cyst, than had yet come away. I renewed the application of the precipitate with the same result five or six days; when

findiug the internal appearance much altered, I was in hopes such a destruction of the cyst had taken place, as to give me reasonable expectation of an union of its sides. On the 20th December I discontinued the tent and all kinds of dressing, and was delighted to find it heal without a fistulous opening in a few days. I was however apprehensive that although an union of the upper part had taken place, yet it was possible this was not the case throughout; that consequently an accumulation of some fluid might occur in the inferior part of the cyst, which would gradually distend it; it continued however perfectly united till about the middle of January, 1803, when a small prominence or papilla of a pearly colour was discovered in the cicatrix, which gradually increasing, on the 17th I examined it and readily passed my probe through this thin transparent skin, to the bottom of the cyst as deep as before; the sides appeared considerably contracted. An acid clear fluid discharged itself in small quantity. It was internally more sensible than formerly, indicating a diminution of the cyst. I dilated with sponge, which unfortunately slipped in during the day, and the orifice contracting, prevented its immediate extraction. Plentiful suppuration ensued—It was more largely dilated. On the 19th I used the red precipitate and thereby increased greatly the suppuration, which enabled me on the 20th to extract the sponge. I continued the precipitate, which increased profusely the suppuration and augmented the sensibility of the cyst throughout. I now enlarged the tent daily to the 24th, omitting the precipitate. On the 25th I lessened the tent considerably in length and diameter. This night it came out, and the parts had collapsed by morning so considerably as to induce me to see the issue without further attempts. The cyst now united, and the disease appeared

at length to be radically removed, as no recurrence has yet taken place June—1810.

I have been thus prolix in detailing this case as I conceive it may prove useful. It was the first I had met with, and I encountered it with full expectation of easily subduing it, in consequence of the very slight manner in which it is passed over by the generality of authors. I find caustics are recommended as the most efficacious mode of treatment; but I apprehend our authors have for the most part copied from each other, otherwise such inert applications as solution of alum &c. could not have been so repeatedly advised. Depending on these authorities, I began with unbounded confidence, and with the result stated. It may be urged, the accidental retention of the lint precluded the possibility of a cure during the two months it was at the bottom of the cyst. In a degree it doubtless did—though a priori, we might suppose it would have acted as a seton, and procured a considerable suppuration, and subsequent adhesion after its own removal. But why did it not heal under the application for some time twice a day so powerful a corrosive, as upwards of fifteen grains of corrosive muriate of mercury to the ounce of water? The truth is, the cyst was, and always must be the great obstacle to success, until completely destroyed by copious suppuration induced. The knife is scarcely to be considered as applicable, as it is impossible to dissect the whole cyst away. It is true, it is recommended to cut away a part of the cyst,* but nothing is here removed except the upper surface, and consequently there is considerable danger of a recurrence of the complaint, although the external orifice may be completely united; this

* Wilmer and others.

was the case in the above patient for full three weeks, during which I flattered myself a complete cure had been effected. The red precipitate appears to me to be of the highest importance in this disease—inasmuch as it can be applied to the bottom of the cyst, producing a powerful impression, without much pain, on the lowest and consequently the most proper part. The suppuration and destruction of the cyst allow the sides to unite, and thus a gradual advance is made to the top. Another advantage in the precipitate, and by no means a small one, is its insolubility, by which it is prevented diffusing itself around, and out of, the cyst, as is the case with the corrosive sublimate, lunar and common caustic, &c. to the great injury of the teeth—and the additional pain and inconvenience to the patient.

Such is the plan I should at once adopt, should I meet with another case. The present case evinces the insensibility of the cyst to the *most powerful* caustics; away then with the more trifling applications. I hope the detail may prove serviceable. I am sure, it would have given me much satisfaction—and have aided me greatly at the time.

I shall only add that had it not succeeded, I had determined to try the actual cautery, as recommended by Ambrose Pare.

Philadelphia, June 8th, 1810.

Singular case of Impregnation, with the dissection—communicated to DR. DEWEES *by* DR. WILLIAM B. SMITH.

Jamestown, Prince Edward County,
Virginia, Sept. 20th, 1810.

DEAR SIR,

Being unacquainted with you, and not having attended your course of lectures, when a student of medicine in Philadelphia, in the years 1806—7. I feel some delicacy in communicating to you a singular case which came under my observation: But supposing you frequently receive communications of a similar nature, and that this might be a means of throwing some light upon a dark and unknown subject, I hope you will excuse me for giving you a general history of the case.

About the middle of September 1809, Mr. Seymour Wright of Cumberland county, sent me a note informing me his negro Diana had just died. Believing it to be a singular case, he expressed a desire that I should open the body to ascertain the seat of her complaint. I opened the body in the presence of Mr. Wright, a young man who lives with him, and Mr. Allen Wilson, by first making a longitudinal incision down the middle of the breast to the xyphoid cartilage—I then dissected away the integuments, and raised the sternum.

In the cavity of the thorax, the lungs were very much diseased. The left lobe was closely attached to the whole surface of the pleura; and in tearing it away, broke into an abscess which discharged nearly a gill of offensive purulent matter.

The pericardium seemed unusually distended, and contained a much larger quantity of that fluid which lubricates the heart, than is consistent with health. Every part of the chest exhibited signs of great inflammation; the convex surface of the diaphragm was considerably inflamed, so much so, that there was an effusion of blood in several places. Continuing the incision down from the scrobiculus cordis to the ossa pubis, leaving the umbilicus to the right, I found the abdominal viscera in a healthy state, except the spleen and liver, the former of which was very much enlarged, and so much decayed, that it would scarcely bear its own weight; weighing I suppose upwards of three pounds. The great lobe of the liver considerably enlarged, and the gall bladder distended with dark glutinous matter; having more the appearance of common tar, than healthy bile. From this circumstance I suppose there must have been some obstruction in the ductus communis choledochus. The left kidney was much smaller than the right, the cortical part having a very pale and unhealthy appearance. Examining the contents of the pelvis, I found the uterus pushed forward towards the pubis, uncommonly small and hard. Opening it with a view of ascertaining its real situation, I found the body of it schirrous and the cavity so small, that it was with much difficulty it received the little finger. Being more particular in my examination of the pelvis, I discovered two large substances, which at first view, I supposed to be indurated fæces: but finding [illegible] by a ligament, and connected with the uterus entirely, except by slight adhesions to the rectum and other parts, I did not hesitate to pronounce them diseased *Ovaria*. The left ovarium, which was enlarged beyond the size of a hen's egg, had formed a bed among the intestines, and slightly attached itself to them, particularly to the rectum.

The situation of the right ovarium differed very much from the left, being higher in the pelvis, adhering to the peritoneum, intestines, &c.—its figure very long and irregular. The uncommon size and figure of these ovaria, induced me to examine them more minutely. I removed them from the pelvis, and obtained leave of Mr. Wright to carry them home. The next day I made an incision with my scalpel in the ovarium, which was taken from the right side, and found my knife considerably resisted by some extraneous matter: I then carefully removed the first membrane, or external covering, and found another; after discharging a small quantity of yellow fluid from the second, I discovered a fœtus about four inches long, perfectly formed, with an umbilical cord joined to a loose vascular and fleshy substance, which I suppose answered the purpose of a placenta. I am well assured that this fleshy production must have been the medium of communication between the parent and child.

The placenta (if I may so call it) is about three times the size of the fœtus, the fœtus attached to the upper end of it, and the lower end adhering to the fimbriæ of the Fallopian tube. It is very remarkable that although this fœtus is not more than four inches long, the bones of the head, trunk and extremities, appear to be perfectly ossified, and hard as the bones of an adult; breaking short off before they would give way to pressure. The head of the fœtus appears to be larger than the trunk and extremities. On opening the abdomen, the liver, which is of a beautiful and delicate yellow, occupies two thirds of the cavity; and the intestines, wonderfully convoluted, one third only.

After making every discovery in the ovarium taken from the right side, I then proceeded to the examination of the left, which was much larger than the right, resembling in figure a squirrel's head, more than any thing to which I can compare it. I first dissected away the external coat, which I supposed to be a production of the peritoneum, and then passed my knife through the most convex part of it, not suspecting as in the first instance another embryo; but to my great surprize and astonishment, I cut through the spine and ribs of a fœtus. Having opened carefully the ovarium, a fœtus presented itself eight inches long, with its feet, legs, hands, arms, head and trunk perfectly formed; and nothing wanting but the abdominal viscera, to render it complete in all its parts. The head occupied the place of the intestines, by being bent down; and the superior extremities folded over the inferior. It is very surprizing that the funis umbilicalis in this fœtus, instead of passing off, from the abdomen, to the placenta, it passed from the anus. This placenta was very different from the other, being much smaller, more firm, and having a more healthy appearance. This perhaps is the cause why the last fœtus is larger than the first. I was not able to discover in the first, whether it was male or female; but in the last, the male organs of generation were very plainly seen.

A number of vesicles, or ova, of different sizes, joined to the internal surface of each diseased ovarium were discovered. The woman in whom the above discoveries were made, was about forty years old; the mother of six children; the youngest eight years of age. I was informed she has never enjoyed her health since she was delivered of her last child.

Before making these discoveries, I was of opinion that the woman might have been saved if properly treated; but if the cause of the disease had been discovered during the life of the patient, it would have been difficult, if not impossible, to afford relief.

How shall we account for the phenomenon? by supposing the male semen to be taken into the circulation of the blood, and coming in contact with the ova of the ovaria? Or shall we suppose the semen masculinum is carried to the ovaria by the Fallopian tubes, and there impregnates the ova: this appears improbable from the case I have just stated; because a part, if not the whole, of the Fallopian tubes, as well as the uterus, was in a schirrous state, of course they could not be capable of taking on such an action, in the act of coition, as would remove the semen from its place of deposit, to the ovaria.

Then it necessarily follows, that the semen masculinum must have been taken up by absorption, unless we suppose the uterus has acquired a schirrous state since the impregnation of the ovaria, which is absurd, because if the uterus was in a healthy state, it certainly would have been impregnated in eight years—for this was the age of her youngest child.—I think this case of extra-uterine fœtus is very much in favour of Doctor Rush's theory of absorption, and I am clearly of opinion, that conception, or impregnation, first takes place in the ovaria, and the Fallopian tubes conduct the impregnated ova into the uterus. The Fallopian tubes, in the case I have stated, were incapable of performing their office

in consequence of disease, and left the impregnated ova in the ovaria, which were gradually evolved.

If you think this communication worth a place in the Medical Museum, or any publication of the kind, you are at liberty to insert it.

With sentiments of regard, I am with
great respect and esteem yours &c.
WILLIAM B. SMITH.

Observations on the Healthiness of Harrisburgh, (Pennsylvania.)—*By* **Dr. Samuel Agnew.**

Dear Sir,

The following observations relative to the healthiness of Harrisburg, were originally written for publication in a newspaper of this place, to answer rather a political than a medical purpose. But although it may not come entirely within the character of medical, yet I trust that, purporting to be an investigation of truth, which if intimately connected with medical philosophy, it will not be derogating from the useful inligence of your Museum. Although in some degree of a local nature, yet it may contribute to form a whole in the natural and medical history of Pennsylvania.

I am, Sir, respectfully yours &c.
SAMUEL AGNEW.

Dr. John R. Coxe.

The subject of fixing permanently the seat of government for Pennsylvania, has occupied the public mind for several years, and has been so ably discussed, both in news-papers,

and the legislative councils of our State, that very little can now be advanced, which will merit public attention. However as a citizen of Harrisburg (which has held a distinguished rank among the contemplated scites) I cannot but lament the public prejudice which exists with respect to the eligibility of this place in point of health. This has been made the detestable weapon, by our enemies, to counteract the wishes of a large portion of the community in favour of Harrisburg. The other arguments in opposition to this place, are generally of too frivolous a nature to demand a serious consideration. But this which strikes at the vitals of domestic peace, and social happiness, is calculated to terrify the most reflecting and public spirited, and cramp the exertions of its warmest advocates. Viewing, as I do, this to be the cardinal argument made use of to defeat the establishment of the government at this place, I have been induced to present some reflections to the public, in order to obviate this groundless prejudice.

In order that the truth may have its deserved effect, I shall endeavour to treat the subject in as perspicuous and satisfactory a manner as my limited talents will permit. To accomplish this purpose, I shall enquire 1st. What are the circumstances or causes necessary to the production of an unhealthy atmosphere? And 2nd. What is the fact with respect to the existence of disease in this place, or whether these causes exist in such a degree as necessarily to excite endemic diseases?

1. It will be granted, I trust, that every effect must have a cause. This is an axiom not less intelligible than philosophical. That the sun is the great source of light and heat—that heat and moisture are essentially connected with the growth of vegetables—and that these are necessary to the

continuance of animal existence, are truths which must forcibly strike the attention of the most careless observer. That respiration is essential to vital action, and that atmospheric air is an indispensible requisite to respiration, are truths equally demonstrable. Here then is an illustration of the axiom that every effect must have a cause.

Disease is a painful deprivation of the regular exercise of the animal functions. But what is the cause of disease?—In order to prevent any misconception, and make the subject unembarrassed with difficulties, it becomes necessary for me to observe, that disease is an indefinite expression, a general term comprehending a great variety of forms and grades of disease, and that these arise frequently from different remote causes. But as it cannot be presumed that those who contend for the unhealthiness of Harrisburg, mean to imply all descriptions of disease, but merely those which are excitable by an unhealthy atmosphere arising from local causes, and generally denominated *fevers*; I shall confine my observations to this description of disease.

That fevers are the offspring of noxious exhalations arising from a mass of putrefying animal or vegetable matter, or both, has been considered an unquestionable fact, even since the days of Hippocrates, by all correct medical observers of nature. Was it necessary I might go into a detail of medical history in confirmation of this fact, under the sanction of the most distinguished characters of Europe (if such authority is admissible in our enlightened country) for several centuries back. But independent of all history in the case, cannot we arrive at the truth by a train of reasoning incontrovertible? That some invisible quality acts on our bodies to produce a

febrile action, or a derangement of healthy functions, will no doubt be granted. That this agent is in the form of gas or air is also certain, because we are not acquainted with any material substances that are not perceptible by the senses, particularly by that of vision, unless they are in a gaseous state. Now that property of nature, which is the source of febrile disease, not being examinable by the senses, we necesarily and rationally conclude, that it exists in the form of air. For we must not forget that every effect must have a cause, and fever being an effect or actual existence, must have a cause likewise. Let no person be so irrational as to deny the existence of noxious and pestilential airs, because they are not visible. A procedure of this kind would involve us in the most monstrous absurdities. Shall we deny the existence of a material exhalation from the rose and the pink, because it is imperceptible to the eye? Shall we deny the existence of a subtile fluid which pervades our earth, and gives polarity to the needle because it is invisible? Shall we deny the existence of a vital fluid in the animal œconomy, which is instrumental to sensation and motion, because it has eluded the most acute observers. Shall we deny that the prostration of the mighty oak, or the stately dome is not affected by the wind, because it is not perceivable by the eye? I trust there is no person whose understanding is so defective in common perception as to deny his assent to these truths. If then we find there are important operations produced through the agency of invisible substances, this will enable us to understand and believe the effects of a deleterious aerial principle, which is the cause of fever. It now remains for us to inquire from what source this principle takes its origin; and this we believe to be the result of putrefaction upon every kind of perishable matter. All animal and vegetable matters, when deprived of

life, are snbject to a decomposition of their parts. This process is accomplished by the agency of a certain degree of heat, air and moisture.

It is unnecessary to enter into a detail of the different kinds of fermentation, or states of change in inanimate matter possessed of a certain quantity of air, heat, and moisture. Suffice it to say that putrefaction is the final change of perishable matter, which destroys its texture, and dissipates its component volatile parts in various forms. The result of this decomposition, is the production of new combinations, possessing different properties, (for we cannot admit the annihilation of a single atom of matter) and several of these are in the state of invisible air. One there is, the insidious destroyer of our health and happiness. It cannot be required that we should describe the mode of existence, or the characteristic properties of this noxious air; it is sufficient that we can be satisfied of the fact. Because, as has been observed, we must not refuse our assent at all times to the truth of a principle or fact, the mode of existence of which we cannot develope.—Were we to indulge ourselves in speculations of this kind, we would frequently be led to doubt many important and interesting facts. But with respect to the volatile and gaseous productions of putrefaction, one of our senses gives us ample testimony. Every one is acquainted with the nauseous exhalations which proceed from putrifying animal and vegetable matter. Why then should we doubt that what is so exceedingly offensive to our sense of smell, should partake, when emitted in great abundance, of the power to produce malignant and pestilential fevers? But this doctrine does not depend on theorizing entirely for its proof; but brings to its aid the melancholy experience of thousands of the human

race. Every age and every country afford abundant evidence of the intimate connection between the existence of epidemic fevers and noxious exhalations, arising from the putrefaction of perishable materials in large cities, or in the vicinity of extensive marshes and stagnant ponds. Read the history of the desolating pestilence which has ravaged our cities—Look at the ghastly and emaciated countenances of those who live surrounded with marshes pregnant with putrid matter. Inquire of the pallid inhabitants of the peninsula between the Delaware and Chesapeake. But why direct your attention abroad? Do you not recollect with horror the dire effects of a stagnant pond at your own doors?* This is proof positive. For with the demolition of that pond, vanished the dreadful pestilence. Perhaps for two or three seasons after its removal there was more disease than was the necessary consequence of the common state of the atmosphere, as it could not be expected but a large quantity of alluvia and filth of various kinds would necessarily remain on the ground and in the channel after the water had subsided.

I have been insensibly led into a lengthy discussion of the first part of my inquiry, but I hope the importance of the subject will justify my procedure. May I not flatter myself that every reflecting mind will be ready to give assent to the truths attempted to be illustrated, and that they will find no difficulty in believing that fevers are the effect of noxious or deleterious airs operating on our bodies—that these airs are the product of putrifying vegetable and animal matter—and

* This alludes to a mill-dam which was built over the Paxton creek contiguous to town, which in the year 1793 emitted such a quantity of miasmata as to lay the whole town under fever of a malignant kind. This was demolished the succeeding year, and health was the consequence.

that these must be in considerable quantity and acted on by air and a certain degree of heat and moisture to evolve the contaminating effluvia. This brings me to inquire—

2, Whether those causes exist in a sufficient degree in the vicinity of Harrisburg, to be the source of endemic fevers? To afford satisfactory information on this subject, it will be necessary to give a brief topographical history of the place.

Harrisburg lies in or near the 40 deg. N. latitude. It is situated on the N. E. bank of the Susquehannah, about 95 miles west of Philadelphia, and 36 of Lancaster; the present seat of government for Pennsylvania. The river in its general course for some distance above and below the town, is from N. W. to S. E. Opposite this place it is better than three-quarters of a mile in breadth. About an equal distance from each shore is a large island, which intercepts the view of the opposite side for a short distance, by the large timber which grows round the margin. The current of the river is generally rapid, having several inconsiderable falls within the distance of one mile and a half, immediately in that part of the river adjoining town. There is probably a fall in the above distance of not less than five or six feet.† The bank on the side next the town, on which front-street runs, is bold and lofty; it is on an average from twenty-five to thirty feet

†There has been an actual measurement, by accurate mathematicians, of the fall of the river for about six miles above this place. It amounts to eighteen feet. The object of this measurement was to ascertain whether there was not a sufficient fall to open a canal, for the purpose of navigation and particularly different kinds of water works, which would commence six miles above town, and empty into the river immediately below, having the town between it and the river. The scheme is highly practicable.—We only want legislative assistance.

above low water mark, and presents a face of solid calcareous rock bedded in schistus, the greatest length of the town. The beach which is exposed at low water during the summer and autumn, is entirely of a silicious nature, in the form of sand and gravel, scarcely admitting the growth of a vegetable blade, and entirely free of any foreign deposition. On the east side of the town, runs the small creek of Paxton nearly a south course, about half a mile from market square. This creek is subject, like all other small streams, at certain seasons, to partial inundations. Its current is not rapid, and its water is rather turbid when confined within its banks, being very zig zag in its direction. Was this a stream of any considerable consequence, or in the immediate vicinity of the town, or were its banks uncultivated, candour obliges me to acknowledge the apprehension of some danger.

But under present circumstances there is nothing to be dreaded. The ground intervening the town and creek is cultivated either in grass lots or appropriated to other agricultural objects, even to the margin of the water. Low grounds which would be subject to retaining stagnant water, are drained and clothed with verdure. The opposite side of the creek is a considerable hill. As to the nature and elevation of the ground on which the town stands, they are of the most favorable kind. The soil is of a loose porous nature, composed of alumine and silex, the latter of which vastly predominates, deposited on a substratum of calcareous rock, which are circumstances that contribute highly to health. The elevation of the scite of the town, with an exception of a very small part of the eastern extremity, is above twenty-five and thirty feet above low water mark. The streets are generally regularly filled and levelled for carrying off the superfluous water with

facility. There is a gentle declination from the bank to the eastern part of the town, which reaches towards the creek. As to the situation of the ground appropriated for the erection of public buildings, we think ourselves strictly within the limits of truth, when we assert that there cannot be found its superior for health and beauty.*

Such is the topography of Harrisburg, detailed, I trust, with candor and impartiality. Now from whence are to proceed those desolating vapors, or fatal seeds of malignant fevers, so much complained of? We find from a faithful description of the situation of this place, that none of those causes exist, which are essential to the production of fevers. From whence proceed those tales of desolating disease which have been circulated with so much industry to the injury of this place? We have ascertained beyond a doubt that no such sources as are indispensible to the propagation of fevers, do exist within the vicinity of Harrisburg. Unless then we suppose that we are the exclusive object of Heaven's baneful scourge, the propagation of such malevolent fictions must be ascribed to those sentiments of mind not the most honorable to human nature.

In perfect consistency with the reasoning and history above, is the experience of the citizens of this place for many years, since the destruction of the mill-pond on Paxton creek, in the vicinity of town, and since the ground lying along this water

*This piece of ground, which adjoins the northern extremity of the town, containing about four acres, rises by a moderate ascent more than thirty feet above the general level of the town. It is entirely free of stump or stone and commands a noble prospect of the distant hills, the proud stream of the Susquehannah, and the fertile county of Cumberland on the opposite shore. This ground was very liberally granted to the State for public purposes, by the late Proprietor Mr. John Harris.

has been subjected to draining and cultivation. My own residence here, for three falls in succession, enables me from experience to say this place is as healthy perhaps as any inland town in our country.

It is a fact which I was much induced to disbelieve previous to my removal here, and this opinion, I must say, had some influence in determining my settlement. In corroboration of those declarations relative to the healthiness of this place, I have furnished myself with that kind of testimony, which will admit of no equivocation. I have obtained a statement of the number of burials within the borough for the present year. There are but two burial grounds in the borough, one for the Germans, the other for the English. It appears that in the former there have been fourteen burials since the first of January last. ‡ In the latter the number does not exceed six. Allowing three deaths for the Germans and one for the English the remaining two months, the total number will be twenty-four. This to a population of 2,500 souls, certainly presents a flattering view of the health of Harrisburg. I do say, that at the present time I have not a single patient under an acute disease; nor do I know of four cases in the whole borough.

If these observations shall have any tendency to remove an improper prejudice of the public mind, or may suggest any truth worthy of medical record, it is all I desire.

‡ In December 1807, the first winter after my settlement here, while engaged in publishing the present piece, I applied to the sextons of the two burial grounds for a statement of the deaths. It appeared that the English sexton had never kept a record. I then strongly urged the propriety of the thing, and the succeeding year it was kept. The result of last years mortality you have already in a former number of the Museum, anticipated upon the industry and instructions I had made the preceding year.

Some Observations connected with the Health of the Citizens of New York.—In a Letter from DR. FELIX PASCALIS.

New-York, October 16th, 1810.

DEAR SIR,

Our public health has been remarkably good during the summer and a part of this fall, owing to a very moderate heat and changeable weather. A few bad cases of malignant fever (of the bilious remitting kind) have taken place, and they mostly originated with a circumstance that I think proper to acquaint you with, and wish you to publish it even with my name. *Our gentry* must have their country seat; indeed our island is beautifully ornamented with them; they are ranged on both sides of our river and in the center, as far as four or five miles, and I must say they offer a very elegant and variegated view. Our *gentry*, you must remember, sir, are not men exclusively living upon their income: but they are men of business, and ten to one in our great population, that they are entitled to the reputation of great activity, and perhaps of genius. As it is *fashionable* so to do, all men of business must ride twice a day from their country seats to town, and *vice versa* in the evening; that is to say, in twenty-four hours they twice immerse themselves in an atmosphere of ten or fifteen degrees of difference; but what is worse, they spend the time of work and fatigue in the warmest side, and that of rest, in their damp houses, amidst their groves on the side of the water, and to be sure, in delightful abodes, for poetry and landscape painters, but the fruitful source of fever and ague, and obstructions of the lymphatics. Add to that exposure, that other which frequent ridings on horseback or in carriages, must create in inclement weather, cool, rainy, misty, windy, clou-

dy and uncomfortable, and you will have a true idea of the life of our gentry; depend upon it I exaggerate nothing. It must be observed that the mischief does not so much arise from residence in those elegant abodes, where habit and a moderate share of exercise, might insure health, as from the daily and incessant changes of atmosphere and temperature which the man of business must endure. The families therefore of our gentry, with children and servants, keep pretty healthy during the fashionable recess from town, (save fever and ague and other complaints). But now and then the head of the family, the man of business falls down, and with a light indisposition at first, is soon swept off from among his astonished friends.....Why, my dear sir, are the natives of your country so little concerned about their climate and its changeableness? Yet, with a *Stentorian* voice, I would not cease to tell them that they inhabit a fruitful and happy land, where every thing promotes and increases cutaneous and lymphatic secretions; that is, rich and abundant food, liquors, and all their usual drinks; and moreover, an unusual degree of activity and industry which no other nation upon earth can boast of. The consequence therefore must be, that changeableness of temperature and frequent exposure to it, must become in an inverse ratio, more fatal, more to be dreaded and carefully avoided. Now you know how careless must be people, who twelve hours of the day were in activity and perspiration, who during succeding twelve hours, have the opportunity of cooling themselves. You and I must understand well that our skin and something more under it, are like the out-works of a camp, the best fortification of our constitution. *I say*, "*suppose the regularity of circulation habitually increased* "*and checked, and a slight indisposition will turn to be a mor-* "*tal disease.*"

I was led to those observations, perhaps related to you without perspicuity, by two instances of death that lately occurred, precisely amidst the poplar groves, and the pure air of our far famed *Bloomingdale*. Two men, of far different descriptions, James Cheetham, and the ever-lamented Mr. Benjamin Perkins; a Quaker gentleman, bookseller. He was a good man, almost the parent of our free-school; strong mind, a good judge of every thing that is good and bad, but I am afraid too much and intensely addicted to pursuits of wealth. Alas! those two men resembled each other in age, in bodily strength and vigour, in degrees of activity and mental *agitation*—the worst is, that they were both night inhabitants of *Bloomingdale!!!*

The intermitting fevers have offered unusual characters of obstinacy, and have sometimes degenerated into chronic diseases. Indeed I have witnessed a case of lunacy and another of consumption from such a trifling disease.

We have likewise seen an extensive prevalence of cutaneous eruption among children. I am not able to class them by name nor by symptoms, a few rare instances excepted of *pemphigus*. In general those anomalous breakings out with large pustules on the feet, neck, and arms, and rash all over the body, have easily yielded to general indications and mild remedies. Dr. Tillery, our President, concurred with me, a few days ago, in the same observation.

If time and health permit, I shall soon transmit something for your Journal.

Forming the best wishes for you and family, I remain, dear sir, respectfully, your most obedient and humble servant,

DR. JOHN R. COXE. FELIX PASCALIS.

We must request pardon of our worthy correspondent, if any mistake appear in his communication. The haste in which it was written, communicated itself to the writing so as to render it difficult to decypher in many parts.

On the Use of Nitrate of Silver in Epilepsy, extracted from a letter from DR. JAMES C. JOHNSTON, *dated Louisville (Kent.) Oct.* 25, 1810.

"Having had some success in the treatment of that inveterate disease Epilepsy, I beg leave to communicate my practice. The tonic plan of treatment has always appeared to succeed better than any other, but the insufficiency of the tonics made use of has been a cause of the frequent failure of that plan of treating the disease—being foiled in two or three attempts to cure that disease by the tonic plan, I found I must abandon it, or make use of the most powerful; accordingly I had recourse to the nitrate of silver. This medicine I take to be the strongest in the class of tonics in the materia medica. I gave it a trial, and found it to answer in all cases in which I have had an opportunity to try it, almost beyond my most sanguine expectations. I gave it in the dose of from two to three grains a day, morning, noon, and night—to this I also added the bark. Can the exhibition of a mineral and vegetable tonic mutually assist each other! This question I have had no chance to try, only in the present one; but I think they do very essentially. If your method of treating the disease fail, I must request the trial of the above.

Observations on the Medical Use of Human Urine.—*By* Dr. Richard Hazeltine.

Berwick, (Maine), October, 1810.

Sir,

In the "Observations on Pertussis," published in the twenty-fifth number of the Philadelphia Medical Museum, in a note at the bottom of page 46, you say, "We should have been glad to have had the exact formula"—alluding to a "mixture of urine and melasses" mentioned in that communication. By this suggestion, it seems the prescription is new to you; and that, therefore, some *Observations on the medical use of Human urine*, may not be unentertaining. These observations relate particularly to the recent urine of healthy children; though that of adults, or that has suffered some change, may be employed for certain purposes herein-after mentioned.

From considering the most obvious qualities of urine, even a superficial observer would unhesitatingly conclude, that it is a substance possessed of no inconsiderable power, whether taken into the stomach; applied to the surface of the body; or injected into the rectum: and when its proximate principles are ascertained by the aid of chemical agents,* one would feel himself warranted to place it among those articles which are capable of producing very evident effects on the living system.

The sensible qualities of urine are so disgusting, that we believe nothing but positive experience of its utility, disco-

* Murray's Chemistry; article, "Urine."

vered by accident or design, in certain cases of indisposition and disease, would sanction its use, in any age or country.

Were I to attempt, in the technical language of materia medica writers, to express my ideas of the medical properties of urine, I should say it is emetic, cathartic, expectorant, sudorific, detergent, and discutient: high-sounding titles indeed! but which have often been applied to substances possessed of powers far inferior to those of urine.

Ever since I can remember, I have been acquainted with the occasional internal use of urine, as a domestic medicine: and during my pupilage, my preceptor sometimes prescribed it from a principle of economy, or as a *medicina pauperum*, in the quantity of half an ounce, or perhaps an ounce, sweetened with melasses, to infants; to those especially within the month; with a view to cleanse the alimentary canal, which it does effectually, and to a better purpose, in my opinion, than many other medicaments that are often given with the same intention. A larger quantity will provoke vomiting: and in appropriate doses, I have often known it given with success, to infants and older children, to relieve laborious respiration,* and oppression at the stomach; to obviate costiveness; and to remove pain, from flatulence, acidity, &c. The use of urine, however, in these cases, has generally been under the direction of mothers and nurses, rather than of physicians. Often in the imbecile age of childhood, after I had gone to bed, have I sip'd, and with no great reluctance, the steeming, salutiferous "buttered-flip;" administered by the careful hand of an affectionate mother, to several, perhaps, of her tender offspring, who were affected with various catarrhal complaints.

* Is its utility in pulmonary complaints, owing to the benzoic acid which it contains?

brought on by wet feet, and exposure to sudden vicissitudes of the weather. The "buttered-flip" was composed of recent urine, obtained from some one of the children, hot water, honey, and a little butter: and it generally removed the complaints for which it was given. Exhibited in this manner, it never puked; but it promoted expectoration and sweat.

The same prescription is often by no means an inefficaceous one, for the same complaints in adults. I once knew a gentleman of independent fortune; of temperate habits; and most exemplary piety; who, to remove occasional indisposition at his stomach, such as inappetency, nausea, or oppression, had recourse, in the morning fasting, to a draught of his own urine; and always with the desired effect. Was this a more unpalatable potion, than a solution of the sulphate of soda, or of the magnesian sulphate?

I have more than once known a liberal draught of urine given to a person intoxicated from ardent spirit; and think it well adapted to such a case, by inducing vomiting, and counteracting the effects of the spirit.

We have it asserted from good authority, that "experience approves of washing the mouth every morning with warm urine," as a preventive of tooth-ache, when this painful affection arises "from slight causes, and many of the teeth are in a state of decay." I have known persons who have been accustomed to use urine in this manner, with very good effect.

Urine, sweetened with honey or melasses, has often been advantageously employed by the common people, to "bring out the measles," as they express themselves; and I consider

it a much less exceptionable remedy than some I have known used for the same purpose.‡

In some places where I have been acquainted, it is a practice among midwives to give their parturient patients, in lingering cases, a draught of the *mariti urina*, with a view to promote the pains, and thereby accelerate delivery. Whatever there may be of *whim* in this practice; and although it seem to be a relic of the rude state of medicine, in those barbarous ages when delicacy and taste were traits of character, perhaps not remarkably conspicuous in either sex; yet I entertain no doubt that in some such cases it may be useful for the same reason, or upon the same principle, that *ergot*, or spurred rye, has been said to be serviceable in similar cases.

From considering the chemical constitution of urine, it may be asked, what effects may be expected from drinking it every day, for several days or weeks, as an *aqua salina?* I answer: I have known and heard of its being taken in this manner, in only three or four instances; and these were cases of lymphatic swelling of the lower extremities, peculiar to puerperal women.† In these cases, when the fever had subsided, and the affection become chronical; a draught of urine taken every morning, fasting, and continued for two or three weeks, and drank occasionally, in the same manner, afterwards, proved very beneficial. In these cases, after sometimes exciting

‡ For instance, the "Nanny-tea," as it has been called; or in other words, *in vino pomaceo, stercoris ovilli infusum.*

† Dr. A. P. Wilson, in his late "Treatise on Febrile diseases," says, "It "is a practice among the vulgar in some places for the cure of agues, to "take half a pint of their own urine three mornings successively, which is "said to be a very effectual remedy."

some degree of nausea, the urine proved considerably laxative.

I have found, upon making some inquiry, that the use of urine as a medicine, is not confined to places where I have been acquainted. A very respectable elderly lady of the society of Friends, who formerly lived in Lynn, Massachusetts, and who justly acquired a high reputation, and no inconsiderable authority as a nurse; has told me that urine was frequently exhibited in the same manner and complaints herein detailed, in Lynn, Salem, &c.—and that from some trivial circumstance, she had thought proper to dignify the mixture of urine and molasses with the name of "Salem Flip."

It is obvious that the idea that urine is an excrementitious fluid, and the knowledge that it is prone, in certain circumstances to some degree of putrefaction, will be likely to prevent its very extensive employment as an internal medicine; but it ought to be considered, that these observations relate not to the internal use of urine that has suffered *any* change; besides, let it be remembered, that as urine abounds in ammonia, which is acknowledged to be a powerful antiseptic, it is presumed it cannot, during its transitory stay in the human body, when medicinally exhibited, even *enter* on a putrefactive process.*

I profess not to be a warm advocate for the internal use of urine as a medicine; but must acknowledge I know no reason why its claim to such use is not, at least, as fair as that of many other articles, whose reputation is high in the practice

* See experiment 2d, paper 1st, in the "Appendix, to Sir John Pringle's Observations on the Diseases of the Army," &c.

of medicine. Should we be willing to expunge from the list of materia medica, castor, the coccus cacti, cantharides fel bovillum,‡ musk, spermaceti, &c. &c. because they are animal, and some of them excrementitious, substances? A late, improved, and most excellent Dispensatory, introduces, from the London Pharmacopœia, the "oniscus asellus," or "Millepeda," as an article of materia medica. Were I to consult my own taste, I could take at any time, a liberal draught of the *haustus salinus* to which these observations relate, with as little disgust, as I could swallow some of the above named articles, or many other *dainties* of the apothecary's shop, *not* of animal origin.

But should the refined tastes of our patients, or an improved state of medical prescription, totally prohibit the *internal* use of urine as a medicine; it may nevertheless, be entitled to some consideration as an *external* application.

Dr. Buchan, in his Domestic Medicine, relates the case of a gentleman, who after using many things to no purpose for an obstinate deafness, was at last advised to put a few drops of his own urine warm into his ears every night and morning, from which he received great benefit.

There is a certain diseased condition of the integuments of the hands to which some persons are liable, especially in cold weather, which is very effectually prevented and cured by washing occasionally in urine.

I have often known urine employed as a wash, among the

‡ I learned the internal use of the fel bovillum, from Motherby's Medical Dictionary; and believe it to be a valuable medicine in certain cases of disease.

common people, and indeed entertain a high opinion of its utility, in recent wounds, by incision, contusion, or laceration; in violent sprains; for cleansing, and inducing a healthy condition, in old, vitiated ulcers; and for curing various cutaneous impurities. Its virtues in these cases are well established: and in some parts of the country where I have been acquainted, I hardly know a more frequent prescription, than the tops of vervain or wormwood, macerated in urine, and applied to a violent contusion or sprain.

From its known constituent principles, it will easily be conceived that urine may be advantageously employed as a laxative *lavement:* I have often known it used for this purpose, among the people; and am persuaded that very few articles within the circle of domestic therapeutics, will answer better.

I have frequently known urine employed with advantage as a veterinary medicine, with various intentions; but need not detail them here.

It is also very commonly employed in this part of the country, in domestic economy, as a mordant, and a solvent of indigo, in colouring wool, or linen, blue; and I believe it to be inferior to no article with which we are acquainted, for this purpose, in a small way.

If it be considered that things seemingly unimportant, and even noxious in some respects, are often converted to valuable purposes in the businesses of life;—and that physicians and other persons, may be placed in situations when it would be convenient to know that urine may be employed to advantage as a medicine in certain cases of disease; it is believed

these observations will not be deemed uninteresting: and whatever may be their real merit, they are unreservedly submitted to your disposal, from

Your most obedient and
humble servant,
RICHARD HAZELTINE.

Dr. John R. Coxe.

An Essay on the medical properties of Tea, read before the Academy of Medicine of Philadelphia, on the 25th of November, 1799.—By the late **James Stuart, M.D.** *of Philadelphia.*

It is to be regretted than an habitual familiarity with those substances which we are in the practice of using either as articles of diet or luxury, should so generally cause their medical properties to be overlooked, as not sufficiently prominent to strike the attention of the superficial observer, or as of too little importance to engross the researches of the more curious. It is hence, that the hoary tea-drinker, who has banquetted with apparent impunity on his favourite beverage for half a century, would express much surprise at finding in it an important or an active medicine. It is also from the same source that the unwary tobacco-chewer, who perhaps has swallowed daily for the same length of time the juice of two or three ounces of tobacco, shews much astonishment at being told the leaves of this plant contain an active poisonous oil, the smallest portion of which, if introduced into a slight scratch on any part of his skin, would prove adequate to exciting the most formidable convulsions, and to endanger his existence.

That the former of these positions is true and generally known to every gentleman acquainted with the analysis of tobacco, is unquestionably beyond the possibility of doubt. And some late experiments render it highly probable that the latter will prove no less so. But at present I am sorry that I am only prepared to offer to your consideration the discovery of the particular property alluded to in the title of this communication, which first gave origin to my inquiries on the subject before me. Yet should any farther experiments develope other medical virtues worthy of attention, I shall take some future opportunity to lay them before this institution.

In the beginning of the autumn of 1798, I became the subject of a very violent attack of the bilious yellow fever then prevalent in this city. I had recourse to mercurials in large quantities; ptyalism, in a high degree, was induced; my teeth became very loose, the whole margin of the tongue and most of the gums were much ulcerated, while the pains were intolerable. The solution of borax, as used by Mr. Bell, a solution of opium and milk, and the whole routine of astringent gargles in use, could afford no relief. Until at length the recollection of the reputed narcotic virtues of tea, with the powerful effects of an infusion on my own system, when internally taken,* suggested it as a probable minister of relief. I accordingly ordered a strong infusion to be prepared, and used it frequently as a gargle. It had the most pleasing and agreeable

* I scarcely can drink a strong dish of tea without feeling unusually cheerful immediately after it; but if I take it in the afternoon, I am frequently prevented from sleep for one or two nights after, during which time I am inclined to start at the least noise and experience the most disagreeable confusion of intellect.

effects; as it soon mitigated the pains of every part affected, which had before been excruciating.

Encouraged by this success, I have since employed it very constantly in my practice, whenever the discharge of saliva was unusual, where the ulcers were of difficult treatment, or pain became an object of attention; and always with the happiest effects. It has lately been used as a gargle by a medical friend of this institution, in two instances with success; and I entertain the most sanguine hopes that its general use may, at a future period, much alleviate the distresses of a mercurial salivation.*

As I wish to found all reasoning on this subject upon the result of experimental inquiry alone, the shortness of time since our last meeting would necessarily constrain me to defer any observations on it. I cannot however avoid suggesting, that as mercury is known to operate most powerfully on the sanguiferous and glandular systems, and as the effects of the *finer* parts of tea have most commonly appeared in sensation or nervous affections, I think it probable that its operation in relieving pain in those cases wherein it is here recommended, may consist in highly exciting and concentrating action in the nervous filaments of the parts affected, and thereby making a

* The manner in which I prepare this gargle is as follows: I pour a pint of boiling water on two drachms or a table-spoonful of the best green tea, and keep it in a closed vessel until the virtues are well extracted. It should afterwards be kept closely stopt up, and always used luke warm. I have lately found sugar and milk very agreeable additions; and probably by the deterging properties of the first and the emollient powers of the latter, they may also prove useful.

new, though temporary impression, exceeding in force and relatively agreeable, when compared to that induced on the system of blood vessels by the use of mercury.

☞ [The following notes were collected by Dr. S. to serve as materials for a further investigation of this subject. They may probably prove useful from giving a condensed view of Dr. Lettsom's treatise on the subject, with observations from other authors. The quotations are, however, apparently in part lost, or unfinished: and as the death of Dr. S. precludes any further continuance by him, the editor into whose hands the papers fell, considered them of sufficient importance to preserve from destruction, believing they would prove serviceable in some other hands. *E.*]

Opium has the same effects as tea, but in a greater degree.

It quickened professor Whytt's pulse, produced faintness and often affected him with a kind of giddiness. Those effects were most remarkable when his stomach was out of order. *Whytt's Works*, 4*to*. *p*. 642.

Hæmoptysis and epistaxis, violent coughs ending in consumptions brought on by the dust of tea.

Lettsom attributes these effects to "*an active penetrating substance* in tea." But I attribute these effects to its general stimulating properties.

Paralysis induced which ended in death in a tea-broker, who examined upwards of one hundred chests a day.

A case of giddiness given, for which the broker was bled, but without permanent relief. He used electricity which diminished the pain, but two days closed the scene.

Lettsom saw him a few hours before he died. "He was insensible; the use of his limbs almost lost, and he sunk very suddenly into a *fatal apoplexy*." Remark; this case strongly evinces the stimulant powers of tea. J. S.

It produced melancholy in a young man of delicate constitution. Van Swieten, Tom. III. § 1060, p. 362. de Paralysi—Vidi plurimos, his potibus diu abusos, adeo enervatum corpus habuisse, ut vix languida membra traherent, ac plures etiam apoplexia et paralysi correptos fuisse.

Lettsom supposes tea renders the warm water more innocent than if used without it, or more than when impregnated with any other known vegetable—attributed to its astringent property. In China they seldom or never bleed. The Doctor suggests the absence of inflammatory diseases to be from the use of tea. Dr. Arnot of Canton, the first who prevailed on the Chinese to bleed, says inflammatory diseases are less frequent every where than in Sydenham's time, and supposes the general use of tea to diminish their frequency.*

* Remark. This is an error, for the constitution is so much more inflammatory now than formerly, that the system is prostrated from excess of force, and the diseases are supposed to be putrid, which in fact arise from excess of force in the arteries. In the reign of Henry VIII. the *breakfast* of the queen's maids of honour, consisted of a *chet-loaf*, a *manchat*, a *gallon of ale*, and a *chine of beef*.

L. recommends tea to strong constitutions and such as use much exercise, and disposed to generate much blood, &c. and forbids it to delicate constitutions, inactive, studious, and sedentary men; fine green tea is especially more injurious than the common or middling sorts. He supposes it is rendered more salutary by long boiling. He brings an instance in proof. The extract is also more innocent. It is imported in cakes of a quarter of an ounce from China.

In all the forms which Du Halde relates for administering tea as a stomachic medicine among the Chinese, it is boiled sometime, or the fragrant principle is dissipated as much as possible.

The Chinese are said by Du Halde and Anson to be pusillanimous, cunning, extremely libidinous, and remarkable for dissimulation and selfishness, effeminate, revengeful, and dishonest.

He seems to doubt whether probity, fortitude or generosity is so frequently found in weak persons as strong, or in women as men, and quotes Milton's Paradise Lost:

> .....though both
> Not equal, as their sex not equal seem'd,
> For contemplation he, and valour form'd;
> For softness she, and sweet attractive grace.

He thinks the increase of salacity of the present age, probably occasioned in some measure by the debilitating effects of tea. He supposes scrophulous diseases are more frequent in towns where tea is used than any where else. It is not known in medicine in England. He says it mitigates uneasiness

more than any other aqueous infusion. It acts like small doses of opium. Recommended in inflammatory complaints. He thinks it might be more advantageously employed by an infusion prepared from a large proportion of fine green tea, and soon poured off in order to procure the finer parts. He has given it in substance with the same effects as an infusion: "Thirty grains given in powder three or four times a day, generally relaxes the solids, diminishes heat and restliness, and induces perspiration. Such a dose as produces a slight nausea, and this quantity usually does, more certainly induces perspiration and a mitigation of the symptoms accompanying inflammatory complaints. If this dose be doubled, the nausea and sickness will be increased, and a disagreeable sensation or load is felt for some time about the stomach, which usually goes off with a *laxative stool.*" Lett. p. 93.

Diuretic; and lithontriptic by its *diuretic property.*

The stone is said to be an "unusual distemper" in China and Japan. Query, whether tea from its analogy to uva ursi, may not prove serviceable also by its antacid quality? It is a great restorative after exercise, or in headache, after a full meal where the pulse is high. Dr. Kirkpatrick relates a case of a lawyer's being relieved of stone by the use of an infusion of tea, and of its proving laxative. (Notes on Tissot.

Walker supposes it to have increased the cases of atrophia lactantium, or tabes nutricum in Leeds in Yorkshire.

According to Kæmpfer, neither Japanese nor Chinese drink the tea before a year old, "because when fresh it is said to prove narcotic, and to disorder the senses.

Amnetat. Exot. p. 625.

In Japan, they grind their tea in a mill and mix with hot water. Many drink an infusion during a long life without any inconvenience. Others again soon experience many inconveniences from drinking any considerable quantity of this infusion.

It is difficult to detect wherein the most active property of tea consists; it appears to reside in the most fugitive parts.

Exp. I. Antiseptic; both green and bohea; also the caput mortuum after distillation nearly equally so.

Percival Exp. p. 119. *et seq.*

Exp. II. The Infusion is astringent.

Professor Kalm remarks such of those in America who took their tea and food hot, lost their teeth very early; and the Indians also who use it.

Exp. III. The distilled water destroys irritability and sensibility, which continued nine hours—gradually recovered afterwards. The liquor remaining after distillation had not that effectst.

Exp. IV. In half an hour the distilled water in the abdomen and to the ischiatic nerve laid bare, produced paralysis and insensibility, and in an hour death.

No sedative or paralytic effect was produced from the application of the liquor after distillation.

He (Lettsom) concludes from these experiments, that "the sedative and relaxing effects of tea, appear greatly to depend upon an odorous fragrant principle, which abounds most in green tea, particularly that which is highly flavoured.

Two drachms of the distilled water produced the same effects, such as nausea, sickness, general lowness and debility, which continued some hours in a person, as he had usually observed, to follow the use of superfine green tea. Smelling occasioned the same effects in a weakly constitution. Lettsom knew a patient who always relieved herself of headache by holding her head over a hot infusion; it "always afforded the most instantaneous and effectual relief." Active, robust and healthy people not much affected by its use.

Effects.—Fluttering, unsteadiness in the hands and other parts—but soon goes off—feel no other injury. Others bear it well in the morning, but from drinking in the afternoon find themselves easily agitated and affected with a kind of involuntary trembling.

Many cannot drink a single dish of tea without being immediately disordered at the stomach. In some, excruciating pain about the parts; attended with general tremors. In weak constitutions it induces pain in the stomach and bowels, spasmodic affections attended with a copious discharge of limpid urine, and great agitation of spirits at the least noise, hurry or disturbance. Watchfulness in some constitutions. He doubts whether warm water or any other aqueous fluid would not have the same effect. It enlivens, refreshes and exhilarates.—p. 68.

He concludes: "From all which circumstances it would seem, that tea contains an active penetrating principle, speedily exciting the action of the nerves; in very irritable constitutions to such a degree as to give very uneasy sensations, and bring on spasmodic affections: in less irritable constitutions it rather gives pleasure and immediate satisfaction, though not without producing some tendency to disagreeable tremors and agitation." Sage, mint, baum, rosemary, and valerian sometimes produce similar effects, and leave that agitation of spirits, flatulence and spasmodic pains, and other symptoms which are met with in people, the most of all others devoted to tea.

Kalm. vol. 1. p. 282. ed. 2. remarks that Indian women who had good teeth before, soon lost their teeth after the use of tea. He suspects the heat, but not the sugar, as a cause.

The vulgar error of attributing the bad effects of tea to the copper it is supposed to be dried on, is easily detected by proper tests.

A Case of Typhus Fever, shewing the utility of YEAST *as a remedy. Read to the Philadelphia Medical Lyceum by* REUBEN A. HIGGINBOTHAM *of Virginia.*

Mr. President, and Gentlemen,

Permit me to give you an account of a late trial of a species of medical practice, which appears to have hitherto attracted very little attention from the faculty of this country.

In the course of the debate which this communication may excite, I shall be glad to be made acquainted by my fellow members, with the probable cause of this singular neglect. Has it been disregarded for want of merit to recommend it, or has it shared what I cannot help terming the hasty, and unjust oblivion which the *whole pneumatic practice* seems to have been consigned to? what can promise more substantial aid in the cure of diseases, than such remedies as can without difficulty or delay be applied to the whole system through the medium of the lungs, and the mass of the circulated blood? what can be more desirable to patients anxious to preserve their strength, than such remedies as are calculated to appease the commotions of fever without the effusion of blood? and again it may be asked, where is the person endowed with ordinary feelings, who would not prefer while labouring under debility whether of the direct or indirect kind, such remedies as will without disgusting the palate, or sickening the stomach, speedily restore the lost strength and health? these ex-

pectations may be regarded as mere theory by some, but not so by those who have put themselves to the trouble of reading and of trial. Medical experience which all must acknowledge the best test, has long since given the most honorable, as well as the most unequivocal testimony of the efficacy of the practice. It must not however be supposed that I wish to discard bleeding in a fever, or Peruvian bark in the cure of debility; as my only wish is to make them less necessary by combining them with certain gasses properly accommodated to the varying states of the system in disease.

"Magna est veritas et prevalebit," says the latin adage; so do I sincerely believe that the time will yet come, when the importance of the new practice will be generally acknowledged, and the neglected genius of Dr. Beddoes will be respected as the hygeia of medical science.

The case which I beg leave to call your attention to, has been taken from the practice of my preceptor Dr. Joseph Klapp of this city.

Mrs. C. wife of capt. C. of Southwark, aged twenty eight years, of a delicate habit, was attacked some time in October last, with the autumnal bilious fever. The course the disease took and its symptoms, were pretty much such as are usually met with in violent cases of this fever. Notwithstanding it was most assiduously pursued by venesection, purges, blisters, mercury, and all the other remedies sanctioned by experience, on about the sixth week from the attack, in opposition to what we had been anxious to avoid, the fever ran into a dangerous typhus.

The course of treatment was then changed. The yellow bark was freely used in the form of decoction, and was also thrown into the bowels by frequent clysters, the concrete volatile alkali, in substance, and in juleps, together with ether, brandy-toddy, &c. were liberally administered. I should have before mentioned that Dr. Rush attended in consultation. Under the use of these remedies, the patient seemed gradually to grow worse, and her relations in a short time were generally of the opinion that it was impossible for her to recover. Her lower extremities, and even her body became so cold as to make it necessary to place bottles of hot water in different directions about her. She was greatly emaciated, the pulse was frequent, quick, and sometimes tremulous. Once she was left without a pulse in either arm, and every one who saw her supposed her dying; the pulse however was shortly afterwards resuscitated by giving her freely, hot and strong brandy toddy. Her extremities had become stiff, and quite useless, so much so indeed, that in whatever posture they would happen to be placed, they would remain in for nearly a whole day together. The tongue was dry, and of a dark shining colour, she was delirious, and possessed a countenance of the most unfavourable appearance. The greater part of some days she would be affected with vigilance, and would shew a great degree of internal distress by constantly rolling her head backwards and forwards on the pillow, and very frequently when she did sleep, she would lay with her eyes partly open.

In short the case presented many symptoms of an apparently incurable typhus, and at this time I suspect her physicians were strongly inclined to believe that no remedies in the possession of the medic art, would be able to prevent death from speedily taking place. It was suspected that effusions had

occurred in the brain which occasioned the rolling of the head and the distress which was depicted in the countenance.

As a last resource, Dr. Klapp proposed using the *yeast*, so highly recommended by a few eminent English physicians, and Dr. Rush willingly acquiesced. The present moment was of the greatest importance to the patient, and her anxious relations. Her life was at stake, and it really seemed a matter pretty well concluded, that her recovery or death rested on the success or failure of this last remedy. In order that there should be no defect in the administration of it, my preceptor resolved, tho' much fatigued by his business of the day, to set up with her during the night. Accordingly with his own hands he raised her head from the pillow and gently poured into her mouth a large table spoon-full of the undiluted, and fresh brewers *yeast*. The effects of the medicine will be perceived by attending to the following account of the changes which in a short time were observed to take place. The first dose occasioned momentary puking, but this appeared to be more owing to the gas which was largely and suddenly extricated from the yeast, unduly distending, and acting on the stomach, than to any discordant or nauseating impression of the remedy. The succeeding dose immediately after giving it produced flatulency, but did not occasion either sickness at the stomach or vomiting; indeed so far from the yeast being disgusting or nauseous, the digestive organ by its use, was observed to become more settled and less irritable than it hitherto had been. After the second dose, a sense of itching occurred about the wrists, shoulders, head, and neck, which first attracted the attention of those around her, by her unexpectedly raising her folded arms from her breast, where they had

laid quite stiff for some hours, and by her beginning to rub or scratch her skin with her fingers. The dimness or the glassy state of her eyes which had obscured her countenance during the two or three last days, began sensibly to decline. Previous to giving the yeast, her face had been suffused with a darkish red colour, but to this in a very striking manner, succeeded a uniform healthy, and natural whiteness of skin. The pulse before quick and very weak, became slower, and acquired a little fulness. In the course of a few hours the tongue became somewhat moist, and soft. In three days it possessed a healthy red colour.

Previous to Dr. Klapp's going home after giving the yeast as above mentioned, those friends who had set up with the patient were fully sensible of the favourable change which had taken place. Dr. Rush at the next meeting which was at 10 o'clock on the ensuing morning, appeared to be not less surprised than delighted in observing what had been accomplished during the last night. That this was the case fully appeared by his conversation, at all times instructive, but on the present occasion, particularly pleasing and animated. With his characteristic clearness, he divided recoveries from disease into three classes. 1st, Those which were principally owing to the operations of nature. 2ndly, such cures as are easily made by medicine, and with but little difficulty to the physician. And 3dly, resuscitation, or cures performed with the greatest difficulty, and that too very often by the unexpected success of remedies prescribed. The case of Mrs. C. he said came under the third head, for it really seemed like an instance of *resuscitation*.

The yeast was directed to be continued, but to be given at longer intervals. As a feeble tonic, and as a common drink, weak chamomile tea was ordered.

In the evening the patient still continued better, and from this time forwards not a single interruption occurred to the

gradual progressive reinstatement of her health. The next day a decoction of the cinchona bark was resumed, which now set well on the stomach. Though previous to giving the yeast, it excited both nausea and vomiting to such a degree that it was thought advisable to lay it aside. In the course of two or three days, Mrs. C. acquired a pretty strong appetite for food, and her previously almost expended strength began to flow back again.

The observations which might be made on the above case are numerous, but in this place and at the present time, I shall venture to suggest but a few.

Mrs. C. did not bear bleeding well, in the beginning of her fever she was bled but twice, and that very sparingly, her pulse becoming so very small and weak as to render a repetition of it hazardous. This disposition of the pulse, and the circumstance of its seeming to be unattended with any abatement of morbid excitement in other parts of the body, gave rise to a suspicion that the issue of the case might be unfavourable. It exposed a tendency in the vessels to a degree of prostration which might not admit of the necessary reaction, and moreover this state of the system was discouraging as it debarred from the free use of a remedy which under other circumstances of the same disease, had been productive of the greatest advantage. In this place it may not be improper to mention as a fact much in favour of the lancet, in the treatment of bilious fever, that out of about one hundred and sixty cases of this disease, which during this last autumn, fell under the care of my preceptor, only one ran into typhus, and that is the case I have just related. All of these patients with the exception of Mrs. C. were freely bled, and the greater part of them from six to ten times.

The operation of the yeast in the above case, I suppose will be differently explained by persons professing different

physiological sentiments; but the theory which seems the most plausible to me is derived from a well known law of the sensorial power, which requires the degree of stimulus to be properly proportioned to the excitability. The feeble stimulus of the yeast happened to correspond better with the precise state of the patient's excitability *at the time*, and thereby was able in a short time to produce a degree of excitement, and propagate through the system a degree of strength, which the previous excessive and discordant impulses of ether, volatile alkali, brandy and the like were altogether incapable of doing. That this should be the case is not more strange than that a person should be incapable of hearing the sound of a drum beat near her, or of the voice of persons in loud conversation, and yet be able to readily hear the feeble noise arising from the thursting of a pin through a sheet of writing paper. This fact is well authenticated, and is related every winter by Dr. Rush in his lectures. From these and other similar circumstances, we may derive a most important lesson with regard to the treatment of diseases. *Medical skill*, I have heard one of the greatest physicians of the present age say, consisted in the art of adapting the stimulus of our remedies to the degree of the excitability. The grand desideratum then is to discover some certain method of ascertaining at all times the state of the excitability. In the present very limited state of our medical knowledge, does not the success of the yeast in the case related, bring into view a rule of practice, which, until the more certain method has been discovered, may be followed with great advantage in the treatment of fevers? This consists of changing our remedies whenever we happen to be disappointed in their effects, to substitute the gentle means for the more violent, and sometimes to use the violent or powerful remedies in the room of the more gentle, and thereby endeavour to adapt the stimulus of our medicine

to the degree of the excitability. By making a little experiment in this way, the physician will only follow the example of the mariner at sea who throws the *log* to ascertain his longitude. Accordingly in typhus and other fevers, by doing as I have suggested, we shall only throw the log of medicine, to find out the longitude of the patient's excitability.

I will mention one case more which fully proves the efficacy of yeast in the low states of fever.

A young gentleman contracted the yellow fever in this city and fled with it to his relations in the country. In a short time the symptoms of his case proved so obstinate and dangerous as to cause his life to be despaired of. When in the last stage of the fever he became very desirous of drinking some Pliladelphia porter, but none could be obtained; he then recollected to have some time since got Philadelphia beer at a neighbouring tavern, some of this was fancied, and sent for, but word was returned that the beer had been all used, and that nothing but the grounds of it was left. This however did not satisfy the patient, for he sent back for some of it such as it was, and in the evening he received half a gallon, of which, too impatient to wait, and examine what he had got, he drank a quart in the course of the night. The next morning he was to every one astonishingly improved in every respect; his beer was then inspected, and found to consist entirely of yeast. He was then advised to continue drinking it, which he did untill the remainder of the half gallon was expended, when his disease was thereby perfectly removed. In short by the *yeast*, the fever was entirely eradicated, and the patient in a few weeks, contrary to the expectation of every one, recovered his former health and strength.

From what I have seen of the medical properties of yeast, and in consequence of what has been published by some respectable London physicians, I am disposed to believe it a re-

medy of great importance in certain cases of typhus. Is it not entitled to be more frequently used than it has heretofore been?

The apparently trifling nature of the article, and its feeble stimulus, may have induced many practitioners to overlook it, but the explanation I have ventured to give of its operation, and more especially the experience already detailed of its actual utility, render such objections as futile as they are speculative. In certain cases, or under certain circumstances of disease, which are discoverable by the penetration and skill of the physician, remedies of such a description, for a reason before stated, will do much more good, than others of the most active and stimulating kind.

In allusion to the story of Elijah, the preacher says "despise not the day of little things," so in certain conditions of the excitability, the physician may say, *despise not the class of little remedies.*

Case of Variolous Affection, supervening Vaccination, by **J. R. Coxe, M.D.** *Read before the Medical Lyceum, Jan.* 9, 1811.

Persuaded that a medical fact is of infinitely greater importance to the practitioner than mere theory, which, however ingenious, serves only to interest the mind for a short time, and rarely outlives its author: I propose in the present communication to state a circumstance of much value in a practical point of view; since it will lead to caution in exposing patients to the action of the variolous poison, until they have completely gone through the whole progress of vaccination.

The friends of vaccination have been induced to believe, from many experiments which seemed conclusive, that it is a perfect preventive to variolous contagion, even after exposure to the small pox, if the vaccine takes effect; and few have hesitated to expose a patient to the influence of the former disease,

when they have become assured of the regular progress of the latter.

My object is here to guard against this premature exposure, to which I never objected, until I met with the following instance of the possibility of danger arising from such supposed well grounded security.

Some time since I vaccinated a child, in whom the disease progressed with great regularity. On the sixth day from the insertion of the matter, I found the child had been exposed to the influence of a case of natural small pox. I felt perfectly easy, as I was convinced from the result of numerous cases, that the vaccine had progressed to that height, that all hazard of the small pox was at an end. In the mean time, the vaccine regularly pursued its course, the areola formed, tumefaction of the axillary glands, and slight febrile indisposition supervened. The scab formed and was nearly or quite dry, when, about the eighteenth or nineteenth day from vaccination, slight fever with head ache and pain of back came on; and on the twentieth day from vaccination, that is, two weeks from the exposure to small pox, several pock appeared on different parts of the body, in number about twenty-five to thirty. These regularly filled and became purulent—and were, in short, complete variolous pustules. For a time I persuaded myself, they were only the pustules of varicella or chicken pox, as some few cases of the kind had appeared in the neighbourhood: nevertheless I had my doubts, since this last disease seldom has a purulence connected with it; and indeed the appearance was much more indicative of variola than varicella. Such however is the human mind, that, fearful of this case being regarded as inimical to vaccination, I persevered in upholding the belief, both to myself and others, that it was nothing but the chicken pox. No unpleasant occurrences took place; the disease dried away, and I discontinued my visits, adhering to the belief I entertained.

In about three weeks from this period, I was desired to see the child, who was said to have broken out with small pox. Interested as I had been previously, I lost no time in looking at this singular case; and I found the child with numerous pock (perhaps 100) spread over it, on different parts. However I had brought myself to the belief that the former eruption was chicken pox; I was now perfectly persuaded that the present eruption was really that disease, and that the former was truly

variolous. The difference of appearance and every circumstance evinced it. The child had been exposed about a week preceding, to the chicken pox in the same house, and the disease evinced itself with regularity, both as to time, appearance and progress. It never shewed any purulent appearance, and dried away about the fifth day from its commencement. That I had mistaken the former disease (willingly I may say, since it militated against preconceived opinion,) I no longer doubted; and I had now only to attempt to explain this curious fact.

John Hunter has demonstrated that one disease frequently suspends the progress of another. He has however, I apprehend, made too general a rule in this respect, since there are undoubted instances of two diseases progressing together in the system. As it respects the different systems of the human body, it is indeed scarcely to be supposed, that a disease occurring in one, should suspend the progress of disease in another, since the laws which act upon them may reasonably be expected to differ. Hence we shall not be surprised to see diseases affecting the arterial, without destroying such as are in operation on the nervous or lymphatic systems, &c. yet in many cases, such sympathy exists between the different systems that such occurrences are not uncommon. Our inquiry, however at present, is chiefly confined to the possibility of two different diseases occupying at the same time, the same system.

In the early stages of my practice in vaccination, the interest I took in it, led me to make numerous experiments, which fully assured me that variola and vaccina could both pursue a co-existing course.

In one case, I vaccinated the patient the day after exposure to the natural small pox, and it progressed finely; but fearing it might not answer, I inoculated with variolous infection on the sixth day; this likewise ran its course. The axillary and other effects of vaccination were evident at the usual time, that is, from about the eighth or ninth to eleventh or twelfth days: on the twelfth day of vaccination, the seventh of inoculation, and thirteenth from exposure, nausea, vomiting, &c. and other symptoms of variolous infection occurred, the pock being perfect; and on the succeeding days several pustules appeared, amounting to about forty over the body, &c. which ran a perfect course, except that they seemed to dry rather earlier than usual. This however seems clearly to be a case of co-exist-

ing disease, and several others of a similar tendency I could enumerate were it necessary.

I have seen several instances in which the vaccine was suspended for three and four days by the eruption of chicken pox, after which it advanced regularly, yet the febrile action of both diseases must have been co-existent; and I have seen other cases in which the variolous action by natural exposure, seemed to be suspended by vaccination, although not subdued; since the small pox came on after subsidence of the vaccine: but at a period so much beyond the usual time, that I could only ascribe it to this cause. In one case it broke out twenty-five days after exposure to the same contagion, which produced it in another person not vaccinated, two weeks exactly, after such exposure; for I cannot ascribe it to exposure to this last person, as only ten days elapsed from her breaking out, to that period at which it came on in the first mentioned one: a period too short for the natural small pox to make its appearance.

As my object however here is only to draw some useful inferences from the case first mentioned, I shall not extend these remarks, although I might readily fill several pages.

From the case then, adverted to, I would observe,

1. That it appears, although the vaccine when it takes effect, generally prevents the occurrence of small pox, if only a few hours have elapsed, yet this is not to be constantly expected.

2. As in this case six days had elapsed in which the vaccine had regularly progressed, and yet proved ineffectual to prevent the subsequent attack of small pox to which it was then first exposed; there is no reason to expect any inferior portion of time absolutely adequate to such effect.

3. The deduction from this, I apprehend to be, that exposure to small pox either natural or inoculated, is highly improper, until the vaccine has completely run its course; that is, until the usual symptoms of general affection, such as, areola, axillary inflammation and fever have subsided; since the system not being absolutely guarded until this period, may in some cases admit the action of the variolous poison; and being once admitted, it may doubtless run its course, although we have the strongest assurances perhaps for believing, that in such cases, (few indeed in number) the subsequent small pox will be of a very trifling nature.